

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed April 25, 2002. Pending claims 1-32 stand rejected for obviousness under U.S.C. §103(a). Herein, claims 1, 9, 18, and 21 have been directly amended. Applicant traverses all the rejections of the Office Action. Reconsideration and allowance of the present application and the presently pending claims are respectfully requested.

I. Response to Claim Rejections Based on Obviousness

In the Office Action, claims 1-3, 6, 8, 10-22, 28, and 30-32 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,987,518 to Gotwald (hereafter *Gotwald*) in view of International Patent WO 97/20413 to Hakulinen (hereafter *Hakulinen*). In addition, claims 4, 23, and 29 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* and *Hakulinen* in view of U.S. Patent No. 5,894,479 to Mohammed (hereafter *Mohammed*). Further, claims 5, 7, and 24-27 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* and *Hakulinen* in view of U.S. Patent No. 5,481,542 to Logston *et al* (hereafter *Logston*). Still further, claim 9 has been rejected under 35 U.S.C. §103(a) as being unpatentable over *Gotwald*, *Hakulinen*, and *Mohammed* in view of *Logston*.

In order for a claim to be properly rejected under 35 U.S.C. §103, the combined teachings of the prior art references must at least suggest all features of the claimed invention to one of ordinary skill in the art. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981). Applicant respectfully submits for the following reasons that the cited combinations fail to show or support all of the elements of claims 1-32 as discussed below.

1. **Claim 1**

Claim 1 reads as follows:

1. A method for transporting Internet Protocol data over a subscriber television system including a headend, a transmission network, and a plurality of Home Communications Terminals, with at least one Home Communications Terminal authorized for receiving the Internet Protocol data, comprising the steps of:

establishing a subnet connection for transporting the Internet Protocol data from a server in the headend to an external network, wherein the external network is different from the transmission network;

receiving at the headend a request for an Internet Protocol connection from the authorized Home Communications Terminal;

assigning at the headend an Internet Protocol address to the authorized Home Communications Terminal for the duration of the Internet Protocol connection;

establishing a route for the Internet Protocol data from the authorized Home Communications Terminal to the server and from the server to the authorized Home Communications Terminal over the transmission network;

transmitting from the headend to the authorized Home Communications Terminal information regarding the route for the Internet Protocol connection;

communicating between the authorized Home Communications Terminal and the external network via the route and the subnet connection; and

releasing the route and assigned Internet Protocol address upon termination of the Internet Protocol connection.

(Emphasis Added)

Claim 1 presently stands rejected in the Office Action under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* in view of *Hakulinen*. The Office Action states that *Gotwald* discloses the claimed invention as in claim 1, but does not specifically teach releasing the route and the assigned IP address upon termination of the IP connection. Further, the Office Action states that *Hakulinen* teaches releasing the route and the assigned IP address upon termination of the IP connection.

First, Applicant submits that *Gotwald* fails to disclose, teach, or suggest “establishing a subnet connection for transporting the Internet Protocol data from a server in the headend to an

external network, wherein the external network is different from the transmission network” as in independent claim 1.

On page 2 of the Office Action, the third full paragraph reads as follows:

... the claimed ‘establishing a subnet connection for transporting the IP data from a server in the headend to an external network’ is met by broadband channel 16 establishes connection with standard network 20 to transport IP data from server 12 to client 18

As stated above, a standard network can be used to establish a subnet connection for transporting data from the server to an external network and from the server to the client.

Column 3, lines 62-65 of *Gotwald* read as follows:

... the first data protocol stack (e.g., for IP protocol data) has a default route set so that all data out of the client 18 is communicated via the standard network connection 20.

As stated above, *Gotwald* allegedly teaches that all communications from the client use a standard (external) network connection that is a default route. Communications from the server to any entity other than the client are not discussed. *Gotwald* allegedly teaches distributing IP (or other protocol) data information over a digital television broadcast network to subscriber terminals in order to utilize downstream only capabilities of existing systems. *Gotwald* does not teach upstream communications over the cable transmission network that can then be communicated over the subnet.

Hakulinen also does not disclose, teach, or suggest “establishing a subnet connection for transporting the Internet Protocol data from a server in the headend to an external network, wherein the external network is different from the transmission network” as in independent claim 1. Page 10, lines 10-14 of *Hakulinen* read as follows:

... all communication from the receiving device 9 takes place via a modem 9c. In a manner known itself, the modem 9c is connected e.g. via a conventional circuit-switched telephone network to another modem 10, which in turn is connected to a

packet-switched data transmission network 11 consisting of servers interconnected via mutual data links.

As stated above, *Hakulinen* allegedly teaches a method similar to *Gotwald*, in which the client connects to the server via an external network. Specifically, *Hakulinen* allegedly teaches communications from the client, through a standard network, to the server. Therefore, neither *Gotwald* nor *Hakulinen* disclose, teach, or suggest “establishing a subnet connection for transporting the Internet Protocol data from a server in the headend to an external network, wherein the external network is different from the transmission network” as in independent claim 1.

Second, *Gotwald* fails to disclose, teach, or suggest “establishing a route for the Internet Protocol data from the authorized Home Communications Terminal to the server and from the server to the authorized Home Communications Terminal over the transmission network” as in independent claim 1. In addressing the element of establishing a route, the Office Action reads as follows:

... the claimed ‘establishing a route for the Internet Protocol data from the authorized Home Communications Terminal to the server and from the server to the authorized Home Communications Terminal over the transmission medium’ is met by the bi-directional standard network 20 which establishes Point-to-Point Protocol (PPP) with the server and the client in both directions

As noted previously in this section, *Gotwald* allegedly teaches distributing IP (or other protocol) data information over a digital television broadcast network to one or more subscriber terminals in order to utilize downstream only capabilities of existing systems. As also noted previously, a default route through the external network is used for communications from the subscriber terminal to the server. *Gotwald* allegedly teaches establishing a route from the server to the client through a transmission network and a default route from the client to the server through an external network.

Like *Gotwald*, *Hakulinen* does not disclose, teach, or suggest “establishing a route for the Internet Protocol data from the authorized Home Communications Terminal to the server and from the server to the authorized Home Communications Terminal over the transmission network” as in independent claim 1. Page 6, line 31-page 7, line 10 of *Hakulinen* read as follows:

In the system of the invention, the receiving device starts the communication by sending e.g. via modem a request for an Internet address or a so-called dynamic address allocation request to a given server connected to the Internet network. The server, which can be called an address server, assigns a free 32-bit Internet address to the receiving device. After this, via a modem line or a corresponding data transmission line and/or other connections used in the data network, the receiving device sends a request to the transmitting device to start transmission. This request contains the above-mentioned temporary Internet address of the receiving device. The transmitting device sends the requested data over a fast network connection to a transmitting station, whose normal function is to transmit e.g. a broadcast or television transmission type MPEG transport stream in a known manner.

As stated above, *Hakulinen* allegedly teaches a communication system which utilizes a modem or other external upstream network connection and a ‘fast network’ downstream connection, specifically a satellite connection. However, *Hakulinen* does not disclose, teach, or suggest “establishing a route for the Internet Protocol data … from the server to the authorized Home Communications Terminal over the transmission network” as is in independent claim 1. Therefore, neither *Gotwald* nor *Hakulinen* disclose, teach, or suggest “establishing a route for the Internet Protocol data from the authorized Home Communications Terminal to the server and from the server to the authorized Home Communications Terminal over the transmission network” as in independent claim 1.

Third, *Gotwald* fails to disclose, teach, or suggest “transmitting from the headend to the authorized Home Communications Terminal information regarding the route for the Internet Protocol connection” as in claim 1. With regard to the transmitting step, the Office Action reads

as follows:

... the claimed ‘transmitting from the headend to the authorized Home Communications Terminal the route for the Internet Protocol connection is met by col. 4, lines 44-50.

Column 4, lines 43-51 of *Gotwald* read as follows:

After receiving the prioritized IP data, MPEG2 data, and the MPEG2 control messages, the multiplexing driver 56 multiplexes the various streams into an MPEG2 multiplex for communication over an appropriate communication channel. Multiplexing driver 56 also adjusts the PCRs as necessary to remove effects such as packet jitter from the new multiplex. Optional security elements 58 can be provided to encrypt or otherwise render the data, or selective parts of the data, secure.

Applicant respectfully submits that the above portion of *Gotwald* teaches communicating data across a route. Column 3, lines 62-65 of *Gotwald* read as follows:

... the first data protocol stack (e.g., for IP protocol data) has a default route set so that all data out of the client 18 is communicated via the standard network connection 20.

As stated above, the upstream path taught by *Gotwald* is a default route. Since *Gotwald* allegedly teaches a default route, there is no need to establish a route and therefore, route information is not transmitted.

Like *Gotwald*, *Hakulinen* does not disclose, teach, or suggest “transmitting from the headend to the authorized Home Communications Terminal information regarding the route for the Internet Protocol connection” as in claim 1. Page 10, lines 10-17 of *Hakulinen* read as follows:

... all communication from the receiving device 9 takes place via a modem 9c. In a manner known itself, the modem 9c is connected e.g. via a conventional circuit-switched telephone network to another modem 10, which in turn is connected to a packet-switched data transmission network 11 consisting of servers interconnected via mutual data links. Of the servers connected to the network, the figure shows particularly the address server 12, whose function is to assign dynamically allocated IP addresses to different users and to maintain a database of information as to who owns which address at any given time.

As stated above, *Hakulinen* allegedly teaches the assignment of an IP address to the receiving

device. There is no discussion regarding routes or transmission of route information to the receiving device. Therefore, neither *Gotwald* nor *Hakulinen* disclose, teach, or suggest “transmitting from the headend to the authorized Home Communications Terminal information regarding the route for the Internet Protocol connection” as in claim 1.

Fourth, *Gotwald* fails to disclose, teach, or suggest “communicating between the authorized Home Communications Terminal and the external network via the route and the subnet connection” as in claim 1. Regarding the step of communicating between the HCT and the external network, the Office Action reads as follows:

Gotwald reference further teaches, communicating between the authorized Home Communications Terminal and the external network via the route and the subnet connection....

However, as noted previously, *Gotwald* allegedly teaches that all communications from the client use a standard external network, rather than the transmission network. Similarly and as also noted previously, *Hakulinen* allegedly teaches that all communications from the client use a standard external network, e.g., a modem. Since *Gotwald* and *Hakulinen* teach upstream communication routes which are external to the transmission network, they cannot disclose, teach, or suggest “communicating between the authorized Home Communications Terminal and the external network via the route and the subnet connection” as in claim 1.

Finally, since *Gotwald* and *Hakulinen* individually do not disclose, teach, or suggest the elements of Applicant’s invention, the combination of *Gotwald* and *Hakulinen* does not render Applicant’s claim 1 obvious under 35 U.S.C. §103(a).

2. **Claims 2, 3, 6, and 8**

Claims 2, 3, 6, and 8 presently stands rejected in the Office Action under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* in view of *Hakulinen*. In rejecting claim 2, the Office Action states that *Gotwald* allegedly teaches the claimed invention as in claim 1 and further discloses a method where the IP data is encapsulated and communicated between the authorized HCT and the headend within a digital data stream that includes television programming. (Page 3, last 2 lines-page 4, first 2 lines.)

In rejecting claim 3, the Office Action states that *Gotwald* allegedly teaches the claimed invention as in claim 1 and further discloses a method “where the IP data is encapsulated into Motion Picture Experts Group (MPEG) transport packets....” (Page 4, first full paragraph.)

In rejecting claim 6, the Office Action states that *Gotwald* allegedly teaches the claimed invention as in claim 1 but fails to teach establishing and releasing the route for IP data comprising Digital Storage Media-Command and Control (DSM-CC) signaling techniques which *Hakulinen* allegedly teaches. (Page 4, second full paragraph.)

In rejecting claim 8, the Office Action states that *Gotwald* allegedly teaches the claimed invention as in claim 1 “but fails to specifically teach releasing the route and assigned IP address upon termination of the IP connection and using a [sic] session security key uniquely associated with the route. Further, the Office Action states that *Hakulinen* allegedly teaches releasing the route and assigned IP address upon termination of the IP connection ... and using an [sic] encryption key uniquely associated with the route to a particular STB.” (Page 4, last paragraph.)

Applicant respectfully submits that *Gotwald* does not disclose, teach, or suggest the claimed invention as in claim 1. Applicant has thoroughly addressed this fact in the preceding corresponding section, and therefore does not repeat such arguments here. Since *Gotwald* does

not teach the claimed invention as in claim 1, *Gotwald* in view of *Hakulinen* does not render claims 2, 3, 6, and 8 obvious since the requirements of 35 U.S.C. §103(a) are not fulfilled.

Furthermore, since claim 1 should be allowed, as argued hereinabove, pending dependent claims 2, 3, 6, and 8 should be allowed as a matter of law since they contain all features of their respective independent claims. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

3. Claim 10

Claim 10 reads as follows:

10. A method of creating and removing Internet Protocol data communications paths within a television system, comprising the steps of:
 - establishing a subnet connection between the television system and an external network;*
 - establishing a continuous feed session within the television system for the transportation of the Internet Protocol data;*
 - receiving a request for a Internet Protocol connection;
 - assigning an Internet Protocol address for the duration of the Internet Protocol connection to the requester of the Internet Protocol connection
 - designating a route including at least a portion of the continuous feed session for the Internet Protocol data for the duration of the Internet Protocol connection;*
 - communicating the Internet Protocol data over the established subnet and designated route for the duration of the Internet Protocol connection; and
 - releasing the Internet Protocol address assignment and the route designation within the television system upon termination of the Internet Protocol connection.

(Emphasis Added)

Claim 10 presently stands rejected in the Office Action under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* in view of *Hakulinen*. On page 5, in the first full paragraph, the Office Action states that:

... the claimed ‘method of creating and removing IP data communications paths within a television system [sic] comprising ...’ is met by that discussed in claim 1.

First, *Gotwald* and *Hakulinen* fail to disclose, teach, or suggest “establishing a subnet

connection between the television system and an external network” as in claim 10. Applicant also submits that claim 10 and others are distinct from claim 1 since different terminology is utilized in various limitations. Generally, Applicant disputes all attempts to generalize claims as similar to others where different language is employed.

Second, *Gotwald* fails to disclose, teach, or suggest “establishing a continuous feed session within the television system for the transportation of the Internet Protocol data” as in claim 10. Column 4, lines 29-37 of *Gotwald* read as follows:

The IP data is routed to a transport encapsulation module 44 which encapsulates the IP data into MPEG2 [sic] transport packets. At module 46, standard MPEG2 headers are added to the transport packets, which are then passed to a priority module 48 which provides a similar function to the IP data that priority module 50 provides for the MPEG2 data. The prioritized IP data is then passed to the multiplexing driver 56.

As stated above, *Gotwald* allegedly teaches a method for encapsulating the IP data into an MPEG2 transport packet. The packets are then prioritized and sent to the multiplexing driver. CFS sessions are not discussed.

Hakulinen also fails to disclose, teach, or suggest “establishing a continuous feed session within the television system for the transportation of the Internet Protocol data.” Page 7, line 30-page 8, line 1 of *Hakulinen* read as follows:

The possibility of multiplexing Internet-type data transfer into a transport stream consistent with the MPEG standards is based on the fact that the transport stream is seldom so fully reserved that its entire bandwidth is in use.

Encapsulating IP data into a transport stream is taught by *Hakulinen*, but CFS sessions are not discussed. Therefore, neither *Gotwald* nor *Hakulinen* disclose, teach, or suggest “establishing a continuous feed session within the television system for the transportation of the Internet Protocol data.”

Third, *Gotwald* fails to disclose, teach, or suggest “designating a route including at least a portion of the continuous feed session for the Internet Protocol data for the duration of the Internet Protocol connection” as in claim 10. Neither *Gotwald* nor *Hakulinen* disclose, teach, or suggest “establishing a continuous feed session within the television system for the transportation of the Internet Protocol data.” Therefore, neither *Gotwald* nor *Hakulinen* could possibly disclose, teach, or suggest “designating a route including at least a portion of the continuous feed session for the Internet Protocol data for the duration of the Internet Protocol connection.”

Finally, since *Gotwald* and *Hakulinen* individually do not disclose, teach, or suggest the elements of applicant’s invention, the combination of *Gotwald* and *Hakulinen* does not render Applicant’s claim 10 obvious under 35 U.S.C. §103(a).

4. Claim 11

Claim 11 presently stands rejected in the Office Action under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* in view of *Hakulinen*. The Office Action states that “claim 11 is met by that discussed in claim 1.” (Page 5, second paragraph.)

Applicant respectfully submits that *Gotwald* does not teach the claimed invention. Since claim 10 should be allowed, as argued hereinabove, pending dependent claim 11 should be allowed as a matter of law since pending dependent claim 11 contains all features of the respective independent claim 10.

5. **Claim 12**

Claim 12 reads as follows:

12. An application server for establishing, using, and deleting an Internet Protocol data communications route within a television system between the application server and an authorized Home Communications Terminal and between the application server and an external network, the application server comprising:

means for establishing an external communications route between an external network and the application server located in a headend of the television system, for communicating Internet Protocol data between the application server and the external network using an Internet Protocol address from the application server, and for releasing the external communications route;

a processor for requesting the establishment of an internal communications route between the authorized Home Communications Terminal requesting an Internet Protocol connection and the application server for the duration of the Internet Protocol connection, releasing the internal communications route upon termination of the Internet Protocol connection, and for communicating Internet Protocol data between the authorized Home Communications Terminal and the application server over the internal communications route wherein the Internet Protocol address for communicating with the external network is associated with the authorized Home Communications Terminal for the duration of the Internet Protocol connection and is released upon termination of the Internet Protocol connection; and

means for encapsulating and unencapsulating the Internet Protocol data for communication between the authorized Home Communications Terminal and the application server.

Claim 12 presently stands rejected in the Office Action under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* in view of *Hakulinen*. On page 5, the Office Action reads as follows:

... the claimed ‘an application server for establishing, using, and deleting an IP data communications route within a television system between the application server and an authorized Home Communications Terminal and between the application server and an external network, the application server comprising ...’ is met by that discussed in claim 1.

Applicant respectfully submits that *Gotwald* and *Hakulinen* do not disclose, teach, or suggest the claimed invention. First, *Gotwald* does not disclose, teach, or suggest “means for establishing an external communications route between an external network and the application server located in a headend of the television system” as in claim 12. Column 3, lines 33-35 of

Gotwald read as follows:

Other data, such as computer data in an Internet protocol (IP) format, are provided to server 12 via a standard network 20. The standard network can comprise, for example, a telephone line, a direct digital link (e.g., a serial communications path), Ethernet, Fast Ethernet, fiber distributed data interface (FDDI), asynchronous transfer mode (ATM), or any other communication network path known in the art. The server 12 multiplexes computer data received from the standard network 20 according to a first data protocol such as the Internet protocol (IP) which has been encapsulated in a second data protocol (e.g., MPEG2) with data streams in the second protocol received via terminal 10 or from data storage.

A downstream route is assumed in the *Gotwald* invention, but no means for establishing the route is articulated. This downstream route utilizes the standard network to which the client (subscriber) is also connected. Note that the client and the server are both connected to the standard network.

However, column 3, lines 62-65, of *Gotwald* read as follows:

... the first data protocol stack (e.g., for IP protocol data) has a default route set so that all data out of the client 18 is communicated via the standard network connection 20.

As stated above, the upstream IP data path from the client is a default route that utilizes the standard network. *Gotwald* does not discuss whether this IP data is communicated to the server or to some other entity connected to the standard network. In fact the excerpt above is the only mention of communications from the client at all. Communications using the standard network from the server to any entity other than the client are not discussed.

Hakulinen does not disclose, teach, or suggest “means for establishing an external communications route between an external network and the application server located in a headend of the television system.” Page 10, lines 10-14 of *Hakulinen* read as follows:

... all communication from the receiving device 9 takes place via a modem 9c. In a manner known itself, the modem 9c is connected e.g. via a conventional circuit-switched telephone network to another modem 10, which in turn is connected to a

packet-switched data transmission network 11 consisting of servers interconnected via mutual data links.

As stated above, *Hakulinen* allegedly teaches a similar method to *Gotwald*, in which the client connects to the server via a standard or external network. All communications are from the client through a standard network to the server. As in *Gotwald*, there is no application server between the client and the external network. Therefore, neither *Gotwald* nor *Hakulinen* disclose, teach, or suggest “means for establishing an external communications route between an external network and the application server located in a headend of the television system, for communicating Internet Protocol data between the application server and the external network using an Internet Protocol address from the application server, and for releasing the external communications route.”

Second, *Gotwald* does not disclose, teach, or suggest “a procesor for requesting the establishment of an internal communications route between the authorized Home Communications Terminal requesting an Internet Protocol connection and the application server for the duration of the Internet Protocol connection” as in claim 12. *Gotwald* allegedly teaches the use of a broadband or other Internet-type transmission network for downstream communications from a headend or other server to the client. However, *Gotwald* allegedly teaches a standard network for communications from the client. The standard network is external to the television distribution network. Column 3, lines 62-65 of *Gotwald* read as follows:

... the first data protocol stack (e.g., for IP protocol data) has a default route set so that all data out of the client 18 is communicated via the standard network connection 20.

As stated above, *Gotwald* does not specifically discuss communications from the client to the server, merely noting that all communications from the client are routed through the standard

network connection. This route is a default route. *Gotwald* also does not discuss the requesting of an IP route by the client, but does teach that IP data is routed to the client. No request for an establishment of an upstream route through the transmission network is discussed and in fact is not necessary in the *Gotwald* method, since a default route through the standard network is used.

Similarly, *Hakulinen* allegedly teaches the use of a satellite, broadband, or other Internet-type transmission network for downstream communications from a headend or other server to the client. However, *Hakulinen* allegedly teaches a standard network (e.g., modem) for communications from the client. The standard network is external to the television distribution network.

Page 6, line31-page7, line 2 of *Hakulinen* read as follows:

... the receiving device starts the communication by sending e.g. via modem a request for an Internet address or a so-called dynamic address allocation request to a given server connected to the Internet network.

Further, page 10, lines 10-14 of *Hakulinen* read as follows:

... all communication from the receiving device 9 takes place via a modem 9c. ... the modem 9c is connected ... to another modem 10, which in turn is connected to a packet-switched data transmission network 11 consisting of servers connected via mutual data links.

As stated in the excerpts above, *Hakulinen* routes all communication from the client to the server through an external network. Although upstream communications to the external network are accomplished, the communications do not occur through “requesting the establishment of an internal communications route between the authorized Home Communications Terminal requesting an Internet Protocol connection and the application server,” as in claim 12.

Therefore, neither *Gotwald* nor *Hakulinen* disclose, teach, or suggest “a procesor for requesting the establishment of an internal communications route between the authorized Home Communications Terminal requesting an Internet Protocol connection and the application server

for the duration of the Internet Protocol connection, releasing the internal communications route upon termination of the Internet Protocol connection, and for communicating Internet Protocol data between the authorized Home Communications Terminal and the application server over the internal communications route wherein the Internet Protocol address for communicating with the external network is associated with the authorized Home Communications Terminal for the duration of the Internet Protocol connection and is released upon termination of the Internet Protocol connection” as in claim 12.

Applicant respectfully submits that since *Gotwald* and *Hakulinen* do not disclose, teach, or suggest the elements of Applicant’s invention, the combination of *Gotwald* and *Hakulinen* does not render Applicant’s claim 12 obvious under 35 U.S.C. §103(a).

6. Claims 13 and 17

Claims 13 and 17 presently stand rejected in the Office Action under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* in view of *Hakulinen*. Since claim 12 should be allowed, as argued hereinabove, pending dependent claims 13 and 17 should be allowed as a matter of law since they contain all features of the respective independent claim 12.

7. Claim 14

Claim 14 presently stands rejected in the Office Action under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* and *Hakulinen* in view of *Mohammed*.

Applicant respectfully submits that *Gotwald* and *Hakulinen* do not disclose, teach, or suggest the claimed invention as in claim 12. Since *Gotwald* and *Hakulinen* do not disclose, teach, or suggest the claimed invention as in claim 12, *Gotwald* and *Hakulinen* in view of

Mohammed does not render claim 14 obvious since the requirements of 35 U.S.C. §103(a) are not fulfilled.

Furthermore, since claim 12 should be allowed, as argued hereinabove, pending dependent claim 14 should be allowed as a matter of law since pending dependent claim 14 contains all features of the respective independent claim 12.

8. Claims 15 and 16

Claims 15 and 16 presently stand rejected in the Office Action under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* and *Hakulinen* in view of *Logston*.

Applicant respectfully submits that *Gotwald* and *Hakulinen* do not disclose, teach, or suggest the claimed invention as in claim 12. Since *Gotwald* and *Hakulinen* do not disclose, teach, or suggest the claimed invention as in claim 12, *Gotwald* and *Hakulinen* in view of *Logston* do not render claims 15 and 16 obvious since the requirements of 35 U.S.C. §103(a) are not fulfilled.

Furthermore, since claim 12 should be allowed, as argued hereinabove, pending dependent claims 15 and 16 should be allowed as a matter of law since pending dependent claims 15 and 16 contain all features of their respective independent claim 12.

9. Claim 18

Claim 18 reads as follows:

18. An application server for establishing and using an Internet Protocol data communications route within a television system between the application server and an authorized Home Communications Terminal and between the application server and an external network, the application server comprising:

means for establishing a subnet connection to the external network;
means for receiving a request for an Internet Protocol connection from an authorized Home Communications Terminal;
means for requesting establishment of an internal communications route for Internet Protocol data within the television system between the applications server and the authorized Home Communications Terminal, wherein the internal communications route requested is based on the type of Internet Protocol data connection required by the authorized Home Communications Terminal;
means for assigning an Internet Protocol address to the authorized Home Communications Terminal for the duration of the Internet Protocol connection;
a memory for maintaining a database of all Internet Protocol addresses associated with the application server and for maintaining the relationship of the authorized Home Communications Terminal and the assigned Internet Protocol address associated with the authorized Home Communications Terminal at least for the duration of a Internet Protocol connection;
means for encapsulating the Internet Protocol data received from the external network for communication to the authorized Home Communications Terminal and unencapsulating the Internet Protocol data received from the authorized Home Communications Terminal for communication to the external network; and
means for releasing the internal communications route for Internet Protocol data upon termination of the Internet Protocol connection.

(Emphasis Added)

Claim 18 presently stands rejected in the Office Action under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* in view of *Hakulinen*. On page 5, the Office Action reads as follows:

... the claimed ‘an application server for establishing and using an Internet Protocol data communications route within a television system between the application server and an authorized Home Communications Terminal and between the application server and an external network, the application server comprising....is met by that discussed in claim 1.

First, Applicant submits that *Gotwald* fails to disclose, teach, or suggest “means for establishing a subnet connection to the external network” as in claim 18. A downstream communications route from the external network (standard network) to the server is assumed, but no means for establishing the route is discussed. However, the upstream communications route from the client also uses the standard network. Upstream communications from the server are

not discussed at all.

Hakulinen also fails to disclose, teach, or suggest “means for establishing a subnet connection to the external network” as in claim 18. *Hakulinen* allegedly teaches a means similar to *Gotwald*, in which the client connects to the server through an external network. No upstream communications from the server are discussed. Therefore neither *Gotwald* nor *Hakulinen* disclose, teach, or suggest “means for establishing a subnet connection to the external network” as in claim 18.

Second, *Gotwald* fails to disclose, teach, or suggest “means for requesting establishment of an internal communications route for Internet Protocol data within the television system between the applications server and the authorized Home Communications Terminal” as in claim 18.

Both *Gotwald* and *Hakulinen* teach means where a broadband or other high-speed internet type transmission network is used for downstream communications from the server to the client. Both however, use an external network for communications from the client to the server or beyond.

Column 3, lines 62-65 of *Gotwald* read as follows:

... the first data protocol stack (e.g., for IP protocol data) has a default route set so that all data out of the client 18 is communicated via the standard network connection 20.

As stated above, *Gotwald* does not discuss means for communications from the client to the server except to note that all communications from the client are routed through the standard network connection using a default route. The default route uses the standard network, is necessarily outside the television system, and is not an internal communications route.

Hakulinen allegedly teaches a means for routing all communications from the client to the server through an external network (e.g., a modem). Again, an external network is outside the television distribution network. Therefore neither *Gotwald* nor *Hakulinen* disclose, teach, or suggest “means for requesting establishment of an internal communications route for Internet Protocol data within the television system between the applications server and the authorized Home Communications Terminal, wherein the internal communications route requested is based on the type of Internet Protocol data connection required by the authorized Home Communications Terminal” as in claim 18.

Applicant respectfully submits that since *Gotwald* and *Hakulinen* do not disclose, teach, or suggest the elements of Applicant’s invention, the combination of *Gotwald* and *Hakulinen* does not render Applicant’s claim 18 obvious under 35 U.S.C. §103(a).

10. Claims 19 and 20

Claims 19 and 20 presently stand rejected in the Office Action under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* in view of *Hakulinen*. The Office Action states that claim 19 is met by the discussion regarding claim 3 and also that claim 20 is met by the discussion regarding claim 6.

Applicant respectfully submits that *Gotwald* does not teach the claimed invention as in claim 18. Since *Gotwald* does not teach the claimed invention as in claim 18, *Gotwald* in view of *Hakulinen* does not render claims 19 and 20 obvious since the requirements of 35 U.S.C. §103(a) are not fulfilled.

Furthermore, since claim 18 should be allowed, as argued hereinabove, pending dependent claims 19 and 20 should be allowed as a matter of law since pending dependent claims 19 and 20 contain all features of their respective independent claim 18.

11. Claim 21

Claim 21 reads as follows:

21. A subscriber television system for communicating Internet Protocol data with an external network, the system comprising:

a Home Communications Terminal capable of encapsulating and unencapsulating the Internet Protocol data;

a headend, wherein the headend includes:

an interface to an external network for establishing a subnet connection to the external network and for communicating the Internet Protocol data with the external connection;

means for establishing, maintaining, communicating over, and releasing a communications route from the applications server to the Home Communications Terminal within the subscriber television system;

means for encapsulating and unencapsulating the Internet Protocol data for communication with the Home Communications Terminal; and

a transmission network for connecting the Home Communications Terminal to the headend.

(Emphasis Added)

Claim 21 presently stands rejected in the Office Action under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* in view of *Hakulinen*. On page 6, third paragraph, the Office Action reads as follows:

As to claim 21, the claimed ‘a subscriber television system for communicating IP data with an external network, the system comprising...’ is met by that discussed in claim 1.

First, Applicant submits that *Gotwald* fails to disclose, teach, or suggest “a headend, wherein the headend includes: an interface to an external network for establishing a subnet connection to the external network and for communicating the Internet Protocol data with the

external connection” as in claim 21. *Gotwald* does not discuss establishing a subnet connection to the external network. A downstream route is assumed, but means for establishing the route are not articulated. Upstream communications from the headend or server are not discussed.

Hakulinen allegedly teaches a similar method as *Gotwald* in which the client connects to the server via a standard or external network. Since *Hakulinen* does not teach establishing a subnet connection to an external network, it could not teach an interface to a subnet connection to an external network. Therefore, neither *Gotwald* nor *Hakulinen* disclose, teach, or suggest “a headend, wherein the headend includes: an interface to an external network for establishing a subnet connection to the external network and for communicating the Internet Protocol data with the external connection” as in claim 21.

Second, *Gotwald* fails to disclose, teach, or suggest “a headend, wherein the headend includes: … means for establishing, maintaining, communicating over, and releasing a communications route from the applications server to the Home Communications Terminal within the subscriber television system” as in claim 21.

Both *Gotwald* and *Hakulinen* teach the use of broadband or other internet-type transmission network for downstream communications from a headend or other server to the client. Both however, use an external network, rather than the transmission network, for communications from the client to the server. Therefore, neither *Gotwald* nor *Hakulinen* disclose, teach, or suggest “a headend, wherein the headend includes: … means for establishing, maintaining, communicating over, and releasing a communications route from the applications server to the Home Communications Terminal within the subscriber television system” as in claim 21.

Third, *Gotwald* fails to disclose, teach, or suggest “a transmission network for connecting the Home Communications Terminal to the headend” as in claim 21. Both *Gotwald* and *Hakulinen* teach upstream communications from the client to the server using external networks which fall outside the subscriber television system. Therefore, neither *Gotwald* nor *Hakulinen* disclose, teach, or suggest “a transmission network for connecting the Home Communications Terminal to the headend” as in claim 21.

Applicant respectfully submits that since *Gotwald* and *Hakulinen* do not suggest or teach the elements of Applicant’s invention, the combination of *Gotwald* and *Hakulinen* does not render Applicant’s claim 21 obvious under 35 U.S.C. §103(a).

12. Claims 22, 28, 30, 31, and 32

Claims 22, 28, 30, 31 and 32 presently stand rejected in the Office Action under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* in view of *Hakulinen*. The Office Action states that the claim 22 is met by the discussion in claim 3, that claims 28 and 31 are inherently taught, that claim 30 is met by the discussion in claim 8, and that claim 32 is met by the discussion in claim 6.

Applicant respectfully submits that *Gotwald* does not disclose, teach, or suggest the claimed invention as in claim 21. Since *Gotwald* does not disclose, teach, or suggest the claimed invention as in claim 21, *Gotwald* in view of *Hakulinen* does not render claims 22, 28, 30, 31, and 32 obvious since the requirements of 35 U.S.C. §103(a) are not fulfilled.

Furthermore, since claim 21 should be allowed, as argued hereinabove, pending dependent claims 22, 28, 30, 31 and 32 should be allowed as a matter of law since pending

dependent claims 22, 28, 30, 31 and 32 contain all features of their respective independent claim 21.

13. **Claim 9**

Claim 9 reads as follows:

9. (Once Amended) A method for transporting Internet Protocol data over a subscriber television system including a headend, a transmission network, and a plurality of Home Communication Terminals, with at least one Home Communications Terminal authorized for receiving the Internet Protocol data, comprising the steps of:

establishing a subnet connection for transporting the Internet Protocol data from a server in the headend to an external network, wherein the external network is different from the transmission network;

receiving at the headend a request for an Internet Protocol connection from the authorized Home Communications Terminal, including a Media Access Control (MAC) address associated with the authorized Home Communications Terminal;

assigning at the headend an Internet Protocol address to the authorized Home Communications Terminal for the duration of the Internet Protocol connection;

maintaining in a database in the headend, a relationship between the assigned Internet Protocol address and the Media Access Control (MAC) address associated with the authorized Home Communications Terminal, the relationship being maintained for at least the duration of the Internet Protocol connection;

establishing a downstream route for the IP data from the server to the authorized Home Communications Terminal over the transmission network within a downstream bandwidth, wherein the downstream bandwidth includes at least a portion of a television program;

establishing an upstream route for the Internet Protocol data from the authorized Home Communications Terminal to the server over the transmission network within an upstream bandwidth, wherein the upstream route uses a protocol selected from Time Division Multiple Access, Slotted-Aloha, and request data slot allocation;

transmitting from the headend to the authorized Home Communications Terminal information regarding the downstream route and the upstream route for the Internet Protocol connection;

communicating the Internet Protocol data between the authorized Home Communications Terminal and the server via the downstream route and the upstream route, wherein the Internet Protocol data is encapsulated into packets;

communicating the Internet Protocol data between the server and the external network via the subnet connection; and

releasing the assigned Internet Protocol address, the downstream route and the upstream route upon termination of the Internet Protocol connection.

(Emphasis Added)

Claim 9 presently stands rejected in the Office Action under 35 U.S.C. §103(a) as being unpatentable over *Gotwald* in view of *Hakulinen, Mohammed*, and *Logston*. The Office Action states that *Gotwald* and *Hakulinen* teach the claimed invention as in claim 9, but fail to specifically teach:

... establishing an upstream route for the Internet Protocol data from the authorized Home Communications Terminal to the server over the transmission network within an upstream bandwidth, where the upstream route uses a protocol selected from Time Division Multiple Access (TDMA) and Slotted-Aloha, releasing the route and assigned IP address upon termination of the IP connection.

(Page 10, beginning eight lines from the top.)

Further, regarding both *Gotwald* and *Hakulinen*, on page 10 the Office Action reads as follows:

... both references [sic] fail to teach receiving at the headend a request for an IP connection from the authorized Home Communications [sic] Terminal that includes a Media Access Control (MAC) address associated with the authorized Home Communications [sic] Terminal, maintaining in a database in the headend, a relationship between the assigned IP address and the Media Access Control (MAC) address associated with the authorized Home Communications [sic] Terminal, the relationship being maintained for at least the duration of the IP connection.

And regarding *Mohammed*, on page 10, the Office Action reads as follows:

Note the *Mohammed* reference, teaches receiving at the headend a request for an IP connection from the authorized Home Communications [sic] Terminal that includes a Media Access Control (MAC) address associated with the authorized Home Communications [sic] Terminal, maintaining in a database in the headend, a relationship between the assigned IP address and the Media Access Control (MAC) address associated with the authorized Home Communications [sic] Terminal, the relationship being maintained for at least the duration of the IP connection....

Further regarding *Logston*, on page 11, the Office Action reads as follows:

Logston et al reference teaches [sic] establishing an upstream route for the Internet

Protocol data from the authorized Home Communications terminal to the server over the transmission network within an upstream bandwidth, where the upstream route uses a protocol selected from Time Division Multiple Access (TDMA) and Slotted-Aloha.

Applicant respectfully submits that *Gotwald*, *Hakulinen*, *Mohammed*, and *Logston* do not disclose, teach, or suggest the claimed invention as in claim 9.

First, *Gotwald* fails to disclose “establishing a subnet connection for transporting the Internet Protocol data from a server in the headend to an external network, wherein the external network is different from the transmission network” as in claim 9. Further, column 1, lines 7-11 of *Mohammed* read as follows:

... the present invention allows a client communicating with a server using separate upstream and downstream devices to designate one or more devices as the devices to receive data from the server.

As stated above, *Mohammed* allegedly teaches communications between a server and a client where the client has multiple IP addresses. There is no discussion regarding communications with an external network from the server.

Similarly, *Logston* concerns itself with an interactive information services system within a cable TV network. Column 3, lines 19-27 of *Logston* read as follows:

The interactive information services system of the invention is preferably implemented as a stand alone system which is installed as a new service; however, the interactive information services network of the invention may also be connected to conventional broadband cable television systems which have been modified to include, for example, fiber optic cable for the additional bandwidth necessary to transmit the interactive information services of the invention.

As stated above, *Logston* allegedly teaches an interactive cable television system and does not discuss headend communications to or from an external network. In fact the only use of IP data is for Message Cells which are transmitted over the forward and reverse path signaling interface.

Column 10, lines 8-14 of *Logston* read as follows:

... a bi-directional signalling path is provided between SP 20 and STT 30 in accordance with the invention. This section describes the interface between the STT 30 (L2) and the headend 112 (L1). As noted above, the forward and reverse path signalling between the headend 112 and SP 20 utilizes a known Ethernet protocol (IEEE 802.3) and thus will not be described in detail herein.

Communications to or from an external network are not discussed. Therefore, *Gotwald* and *Hakulinen*, *Mohammed*, and *Logston* do not disclose, teach, or suggest “establishing a subnet connection for transporting the Internet Protocol data from a server in the headend to an external network, wherein the external network is different from the transmission network” as in claim 9.

Second, *Gotwald* fails to disclose, teach, or suggest “transmitting from the headend to the authorized Home Communications Terminal information regarding the downstream route and the upstream route for the Internet Protocol connection” as in claim 9. *Mohammed* allegedly teaches communications between a server and a client where the client has multiple IP addresses. The upstream and downstream routes are used but *Mohammed* does not address the assignment of the routes, nor any information associated with the assignment. *Logston* allegedly teaches interactive communication over a cable network, but does not discuss IP routing. Therefore, neither *Gotwald*, *Hakulinen*, *Mohammed*, nor *Logston* disclose, teach, or suggest “transmitting from the headend to the authorized Home Communications Terminal information regarding the downstream route and the upstream route for the Internet Protocol connection” as in claim 9.

Third, *Gotwald* fails to disclose, teach, or suggest “releasing the assigned Internet Protocol address, the downstream route and the upstream route upon termination of the Internet Protocol connection” as in claim 9. As noted by the examiner, *Hakulinen* allegedly teaches releasing a downstream route and assigned IP address upon termination of the IP connection. Since *Hakulinen* does not discuss upstream communications across the transmission network, then *Hakulinen* could not address “releasing the ... upstream route upon termination of the Internet

Protocol connection” as in claim 9. Neither *Mohammed* nor *Logston* discuss the release of IP routes. Therefore, neither *Gotwald*, *Hakulinen*, *Mohammed*, nor *Logston* disclose, teach, or suggest “releasing the assigned Internet Protocol address, the downstream route and the upstream route upon termination of the Internet Protocol connection” as in claim 9.

Applicant respectfully submits that since *Gotwald*, *Hakulinen*, *Mohammed*, and *Logston* do not suggest or teach the elements of Applicant’s invention, the combination of *Gotwald*, *Hakulinen*, *Mohammed*, and *Logston* does not render Applicant’s claim 21 obvious under 35 U.S.C. §103(a).

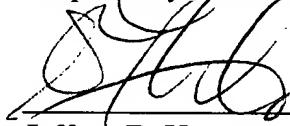
III. Prior Art Made of Record

The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 1-32 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,



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7/25/02

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ANNOTATED VERSION OF MODIFIED CLAIMS TO SHOW CHANGES MADE



CLAIMS The following is a marked up version of the amended claims. Amend the following claims by adding the language that is underlined ("__") and by deleting the language that is enclosed within brackets ("[]"):

1. (Once Amended) A method for transporting Internet Protocol data over a subscriber television system including a headend, a transmission [medium] network, and a plurality of Home Communication Terminals, with at least one Home Communications Terminal authorized for receiving the Internet Protocol data, comprising the steps of:

establishing a subnet connection for transporting the Internet Protocol data from a server in the headend to an external network, wherein the external network is different from the transmission network;

receiving at the headend a request for an Internet Protocol connection from the authorized Home [Communication] Communications Terminal;

assigning at the headend an Internet Protocol address to the authorized Home Communications Terminal for the duration of the Internet Protocol connection;

establishing a route for the Internet Protocol data from the authorized Home Communications Terminal to the server and from the server to the authorized Home Communications Terminal over the transmission [medium] network;

transmitting from the headend to the authorized Home Communications Terminal information regarding the route for the Internet Protocol connection;

communicating between the authorized Home Communications Terminal and the external network via the route and the subnet connection; and

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releasing the route and assigned Internet Protocol address upon termination of the Internet Protocol connection.

9. (Once Amended) A method for transporting Internet Protocol data over a subscriber television system including a headend, a transmission [medium] network, and a plurality of Home [Communication] Communications Terminals, with a least one Home Communications Terminal authorized for receiving the Internet Protocol data, comprising the steps of:

establishing a subnet connection for transporting the Internet Protocol data from a server in the headend to an external network, wherein the external network is different from the transmission network;

receiving at the headend a request for an Internet Protocol connection from the authorized Home [Communication] Communications Terminal, including a Media Access Control (MAC) address associated with the authorized Home [Communication] Communications Terminal;

assigning at the headend an Internet Protocol address to the authorized Home Communications Terminal for the duration of the Internet Protocol connection;

maintaining in a database in the headend, a relationship between the assigned Internet Protocol address and the Media Access Control (MAC) address associated with the authorized Home [Communication] Communications Terminal, the relationship being maintained for at least the duration of the Internet Protocol connection;

establishing a downstream route for the IP data from the server to the authorized Home Communications Terminal over the transmission [medium] network within a downstream bandwidth, wherein the downstream bandwidth includes at least a portion of a television program;

establishing an upstream route for the Internet Protocol data from the authorized Home Communications Terminal to the server over the transmission [medium] network within an upstream bandwidth, wherein the upstream route uses a protocol selected from Time Division Multiple Access, Slotted-Aloha, and request data slot allocation;

transmitting from the headend to the authorized Home Communications Terminal information regarding the downstream route and the upstream route for the Internet Protocol connection;

communicating the Internet Protocol data between the authorized Home Communications Terminal and the server via the downstream route and the upstream route, wherein the Internet Protocol data is encapsulated into packets;

communicating the Internet Protocol data between the server and the external network via the subnet connection; and

releasing the assigned Internet Protocol address, the downstream route and the upstream route upon termination of the Internet Protocol connection.

18. (Once Amended) An application server for establishing and using an Internet Protocol data communications route within a television system between the application server and an authorized Home Communications Terminal and between the application server and an external network, the application server comprising:

means for establishing a subnet connection to the external network;

means for receiving a request for an Internet Protocol connection from an authorized Home [Communications] Communications Terminal;

means for requesting establishment of an internal communications route for Internet Protocol data within the television system between the applications server and the authorized Home [Communication] Communications Terminal, wherein the internal communications route requested is based on the type of Internet Protocol data connection required by the authorized Home [Communications] Communications Terminal;

means for assigning an Internet Protocol address to the authorized Home Communications Terminal for the duration of the Internet Protocol connection; a memory for maintaining a database of all Internet Protocol addresses associated with the application server and for maintaining the relationship of the authorized Home Communications Terminal and the assigned Internet Protocol address associated with the authorized Home Communications Terminal at least for the duration of [a] an Internet Protocol connection; [and]

means for encapsulating the Internet Protocol data received from the external network for communication to the authorized Home Communications Terminal and unencapsulating the Internet Protocol data received from the authorized Home Communications Terminal for communication to the external network; and

means for releasing the internal communications route for Internet Protocol data upon termination of the Internet Protocol connection.

21. (Once Amended) A subscriber television system for communicating Internet Protocol data with an external network, the system comprising:

a Home Communications Terminal capable of encapsulating and unencapsulating the Internet Protocol data;

a headend, wherein the headend includes:

an interface to an external network for establishing a subnet connection to the external network and for communicating the Internet Protocol data with the external connection,

means for establishing, maintaining, communicating over, and releasing a communications route from the applications server to the Home Communications Terminal within the subscriber television system,

means for encapsulating and unencapsulating the Internet Protocol data for communication with the Home [Communication] Communications Terminal; and
a transmission [medium] network for connecting the Home Communications Terminal to the headend.